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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/711,888 | 10/12/2004 | Ramgopal Darolia | 151132 | 5887 |

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EXAMINER

LAVILLA, MICHAEL E

ART UNIT PAPER NUMBER

1775

DATE MAILED: 08/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/711,888

Applicant(s)

DAROLIA ET AL.

Examiner

Michael La Villa

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 22-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>20041012, 20041119</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-21, drawn to an airfoil or gas turbine engine blade having a metallic coating with silver particles, classified in class 428, subclass 678.
 - II. Claims 22-36, drawn to methods of making the articles of Group I, classified in class 427, subclass 532.
2. The inventions are distinct, each from the other because of the following reasons:
3. Inventions of Group I and of Group II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product can be made by a process that entails an alternative preliminary cleaning step, such as chemical etching step, or by an absence of preliminary cleaning step.
4. Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

5. Because these inventions are independent or distinct for the reasons given above and the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.
6. During a telephone conversation with Ms. Hartman on 26 July 2006 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-21. Affirmation of this election must be made by applicant in replying to this Office action. Claims 22-36 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.
7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Objections

8. Claim 7 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Regarding Claim 7, it is unclear how this claim is further limiting of Claim 6, as Claim 6 can be interpreted to have the same scope of coverage as Claim 7.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:
10. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
11. Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
12. Regarding Claims 1, 3, 13, and 14, it is unclear whether the term “compositions” necessarily implies that the individual “metallic particles” are comprised of more than one composition. It is unclear whether different “metallic particles” are necessarily comprised of more than one composition. It is unclear whether the claimed “metallic coating” is necessarily in direct contact with the surface of the airfoil, precluding the presence of intervening layers. It is unclear whether the outer surface of any intervening layer, which is in direct contact with the “metallic coating,” may be redefined as the surface of the airfoil. Is only an intervening bond coat layer permitted?
13. Regarding Claim 2, it is unclear whether the phrase “formed by interaction” is a product-by-process limitation that requires in situ formation or is a compositional limitation of the nature of the chromium or chromium intermetallic phase.
14. Regarding Claim 3, it is unclear whether the term “chosen” is synonymous with the term “selected.” If not, it is unclear whether the claim requires metal particles having compositions of all of silver alloys, SnAg, and SnTiAg. Analogous rejections apply to Claims 5, 14, and 16, where the term “chosen” is used.

15. Regarding Claims 4 and 15, it is unclear whether the metallic particles can optionally comprise tin in these claims. It is unclear whether “metallic particles” may substantially comprise tin, yet the metallic coating be “substantially” free of tin.
16. Regarding Claims 5 and 16, it is unclear whether the described oxides are necessarily formed in situ, in which case the claim constitutes a product-by-process limitation, or whether the claims recite the compositional character of oxides in the metallic coating without specifying their origin.
17. Regarding Claims 9 and 19, it is unclear what is meant by the phrase “that contains material of the metallic coating and material of the ceramic coating.” It is unclear what it means for one coating to comprise material of another coating. Does “material” mean “composition of the material”?
18. Regarding Claims 10 and 20, it is unclear whether these claims require that the metallic coating and ceramic coating be in direct contact at a discrete interface without a graded interlayer, whether these claims require an absence of graded interlayer, but not necessarily direct contact, or something else.
19. Regarding Claim 12, it is unclear what is the antecedent basis of the phrase “the metallic bond coat,” as Claim 10 makes no reference to a “metallic bond coat.”

Allowable Subject Matter

20. Claims 1 and 13 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

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21. Claims 2-12 and 14-21 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
22. None of the reviewed prior art teaches or suggests provision of a metallic coating containing silver particles in a matrix on an airfoil surface or titanium engine blade in the manner claimed in combination with the other claimed limitations.

CONCLUSION

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (571) 272-1539. The examiner can normally be reached on Monday through Friday.
24. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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25. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael La Villa
16 August 2006



MICHAEL E. LAVILLA PH.D.
PRIMARY EXAMINER